



Ride shuttle to holiday reception

Shuttle services will be provided for those attending the annual holiday reception from 1-3 p.m. Thursday at Bldg. 4752.

Bring a toy or non-perishable food item to receive a raffle ticket for chance to win a door prize!

Buses and vans will run from the following locations to Bldg. 4752 approximately every 15 minutes from 12:30-3:30 p.m.

Stop No. 1 — Bldg. 4200, west side (main loop)

Stop No. 2 — Bldg. 4203, north loop

Stop No. 3 — Bldg. 4250, east end; Bldg. 4207, northeast

Stop No. 4 — Bldg. 4705, south side; Bldg. 4708, northwest; Bldg. 4707, north side

Stop No. 5 — Bldg. 4493, west end of Bldg. 4483; Bldg. 4481, west end; Bldg. 4471, east end

Stop No. 6 — Bldg. 4612, west side; Bldg. 4610, north side

Stop No. 7 — Bldg. 4487, main (south side)

Stop No. 8 — Bldg. 4663, main (north side); Bldg. 4650, east side

Stop No. 9 — Bldg. 4666, main; BAC49 south side (parking lot entrance)



Photo by Dennis Olive, NASA/Marshall Space Flight Center

Spreading good cheer

Brenda Bradford, a paramedic with Huntsville Emergency Management Services Inc., puts her talent to work decorating the Medical Center for the holidays.

From co-op student to deputy director

Carolyn Griner, one of NASA's female pioneers, to retire from Marshall Center at year's end

by Sherrie Super

In 1964, Carolyn Griner was one of only three women in technical positions at the Marshall Center — outnumbered by male engineers at a ratio of more than 1,000 to one.

Today, after 36 years of helping America reach new frontiers in space exploration, Griner, now the deputy director of the Marshall Center, has announced plans to retire from NASA at the end of the year.



Griner

Griner will take into retirement many history-making memories, including the liftoff of the mammoth Saturn 5 rocket that carried Americans to the Moon; the launch of the first elements of America's first experimental space station, Skylab; the flight of the first and 100 subse-

quent Space Shuttle missions; and delivering science in space on Spacelab missions — all efforts in which she played major roles.

Noting Griner's planned retirement, NASA Administrator Dan Goldin presented her with her second Distinguished Service Medal — NASA's highest honor. "For the eight and a half years I've been administrator of this agency, whenever there's an assignment that other people run from, Carolyn goes for it," Goldin said, citing Griner's numerous contributions for "this agency and this country."

As deputy director since 1994, Griner assists the Marshall Center director in managing a broad range of propulsion, space science and materials research and development activities in support of the space program.

Griner has come a long way since setting her sights in the 1960s on the then predominantly male field of engineering.

See **Griner** on page 5



Photo by Dennis Olive, NASA/Marshall Space Flight Center

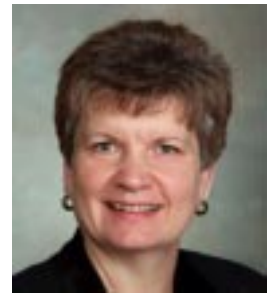
Training in Huntsville

Space Station training representatives from Russia, Japan, Canada, Europe and NASA Centers met in Huntsville recently for the semi-annual International Training Control Board conference.

Two nominated for Council positions

Two Marshall employees responded to the request for petitions to fill two vacancies on the NASA Exchange Council.

May Wales, Marshall's



Wales



Jacks

ombudsman, and Bennie Jacks, of the Facilities Engineering Department of the Center Operations Directorate, submitted petitions for the vacancies.

Andersen Consulting to help NASA replace accounting software

Andersen Consulting of Reston, Va., is helping NASA prepare to replace its accounting software with new software that will streamline and improve the way NASA and its field Centers manage their business.

"This will be an exciting venture that will allow NASA to step into the 21st Century with a state-of-the-art business system," said David Bates, chief financial officer for the Marshall Center.

"Andersen Consulting will be helping NASA to adapt its business processes to commercial off-the-shelf software. This will allow us to improve tremendously our ability to provide reliable and consistent information to support the project management of the Agency."

The Marshall Center is managing both the software and implementation con-

tracts for NASA, with input from the Agency's other field Centers. Both tasks are part of NASA's Integrated Financial Management Program (IFMP), a program that will improve financial and human resources management processes Agencywide by re-engineering NASA's business infrastructure.

Andersen Consulting will provide a number of support services required to implement the new Core Financial software across the Agency. It will configure and test the software, convert existing data, analyze and resolve software gaps, train NASA employees and determine an implementation schedule across the Agency.

The Core Financial Project office will work with Andersen Consulting to implement the software package. Pam

Cucarola, of Marshall's Office of the Chief Financial Officer, is leading the project, budgeted at \$79.6 million over the next three years. By standardizing the software and associated business processes for all field Centers, NASA will operate more efficiently, enable its workforce to do their jobs more effectively, and provide its managers with better data for decision-making.

The IFMP Integration Project will provide the Core Financial Project and any future projects implemented under the IFM Program with information technology services, operations and sustaining support as each software package is implemented. Jonathan Pettus of Marshall's Center Operations Directorate manages the Integration Project, budgeted at \$79 million over the next five years.

Quotes to ponder ...

Effort: *Real generosity toward the future consists in giving all to what is present.*

— Albert Camus

Marshall media writer collects valuable space toys

by Debra Valine

Toys are toys, right? Not necessarily. Each year during the holiday season people the world over think of toys. Children hope to receive that most popular toy, while adults frantically search from store-to-store hoping to find that toy. Not many consider a toy's future value.

When brightly wrapped gifts of toys are given during the holidays, children — and some adults — tear open the paper, discard the box and play with the toy until its newness wears off or the toy breaks. But someday, that toy could be a collectible, and worth more money than it originally cost — especially if you keep the box in mint condition.

Jonathan Baggs, a media specialist in Marshall's Media Relations Department, remembers those days and all the neat space toys he had as a child. He collects space toys made of tin — many he had originally as a child during the race to the Moon.

One of those originals was the Remco Voice Control Astronaut Base. "I bought it new in 1969 with my own money — about \$12 at the time, which was a lot then, but I had saved it up," said Baggs, employed by Ai Signal Research Inc.

"Mom tried to talk me out of 'blowing' it on one toy, but I didn't listen. I still have the box, and the toy is worth considerably more than I paid for it. I'll never sell it since it was one of my absolute favorite toys from that time. And I want my little boy to experience the thrill of commanding his own rocket launch."

Baggs has been collecting toys "ever since I can remember — and I'm almost 40." His father, Ellis T. Baggs, worked as an electrical engineer and charter member of the Marshall Center until his retirement a

few years ago. "Even as a kid I always wanted to save the boxes my toys came in," Baggs said, "but, unfortunately, most of the time that was a losing battle with my mom, Jeflyn," Baggs said. "Now it's a battle with my wife, Stephania. Of course I'm a hero to my 3-year-old, Ford, who is beginning to think Santa must have a satellite workshop in our house."

Still, Baggs is recreating his toy collection of his youth — some of the toys he managed to save, others he is purchasing as a collector.

Space toys — many originally based on science fiction — have been produced since

fiction collided with the reality of the American and Soviet space programs, Baggs said.

"Suddenly there were actual, true-to-life examples of space vehicles for children to play with. But it was also during this time the Tokyo toy industry was struggling with skyrocketing overhead costs. Japan dominated the robot and space toy market in the 1950s because of their innovation, creativity and low prices. But by 1969, declining export consumer demand and the rising overhead costs doomed them. By the end of the 1970s, most had long vanished."

His favorite toy is the "New Space

Capsule," which is all tin lithography and battery-operated. It was manufactured by Horikawa of Japan under the "SH" trademark in 1968-1969.

It has NASA logos on it — although the logos are backward — and looks like a one-man Gemini capsule. "It's hard to find in any condition, much less mint in the box like mine, and is one of my rarest toys," Baggs said. "When the toy stops, the two gull-wing doors flip open and a tin astronaut rises out with a camera and a flashing radar screen."

Other favorites include the Apollo-Z Moon Traveler and the "Eagle"

Apollo 11 Lunar module. "The Apollo-Z Moon Traveler has flashing lights and when it stops, the whole ship rises vertically and then the command module separates and retracts and the process starts over," Baggs said. "The 'Eagle' Apollo 11 Lunar module also is a great toy. During its operation, an astronaut emerges from the ship ready to take a giant leap for mankind."

Apollo-Z Moon Traveler was manufactured in 1969 by Nomura, one of the most prolific of all postwar Japanese toymakers



Photo by Dennis Olive, NASA/Marshall Space Flight Center

Baggs with some of his favorite space toys.

the 1930s, Baggs said, but it was in the 1950s that the craze took off. "The fanciful 'Buck Rogers' designs gradually gave way to more serious designs, especially with the launch of Sputnik in 1957," Baggs said. "Japan was positioned to dominate this golden age because of D-cell batteries, can motors and lithographed tin that was easy and cheap to shape into whatever a toymaker's imagination could come up with."

From a design point of view, the 1960s were a time when the fantasy of science

See *Space Toys* on page 5

Work Tips

How to stay relevant at work

Don't let you or your skills become obsolete. Develop your professional skills to achieve your financial and career goals. But don't just add new skills willy-nilly. Develop a plan. Lay out a vision of your life and then map out how you'll achieve that picture.

Here's how to develop your game plan:

- **Take an honest look at your worth.** Once a year take a good look at your competence and skills. If they don't match what's in demand in the market, figure out how and where you need to improve. Use your evaluations to help direct you.
- **Stay on top of technical skills.** Make sure you're competent on basic applications and have a command of available technology (the Internet, communication devices) to make you more efficient. Stay abreast of technological change by reading relevant publications.
- **Make skills upgrading a priority.** That means accepting lifelong learning as a principle. Take classes online, go back to school or take continuing-education classes applicable to your job or the job you want.
- **Interview your boss.** Make sure you know where the company is heading and whether or not your goals and the company's goals are in sync.
- **Get a mentor.** Look for someone who'll help you navigate the political arena and help direct your professional development. Look for someone who also has a proven track record of advancement, skill and knowledge.

—Adapted from *Black Enterprise*

Be aware of holiday viruses

E-mail messages being distributed with holiday animation programs may contain a malicious computer virus.

For example, opening a .vbs or .exe attachment that promises to play a Christmas carol tune may instead launch a computer virus, trojan or worm attack against Marshall users and networks.

Personnel should be careful when opening or forwarding unsolicited e-mail or messages from unknown senders. It's best to delete such suspicious messages without opening them.

It is recommended that, during the holiday period, all personnel turn off their desktop computers and any other unneeded computer systems at night, over the weekends and if they are taking extended leave.

Students using NASA, NSF data make stellar discovery; win science team competition

Three high school students, using data from the Marshall-managed Chandra X-ray Observatory and the National Science Foundation's Very Large Array (VLA), Monday won first place in the Siemens-Westinghouse Science and Technology Competition in Washington, D.C. The team award was based on their discovery of the first evidence of a neutron star in the nearby supernova remnant IC443.

Charles Olbert, 18, Christopher Clearfield, 18, and Nikolas Williams, 16, all of the North Carolina School for Science and Mathematics (NCSSM) in Durham, N.C., found a point-like source of X-rays embedded in the remains of the stellar explosion, or supernova. Based on both the X-ray and radio data, the students determined that the central object in IC443 is most likely a young and rapidly rotating neutron star — an object known as a pulsar.

"This is a really solid scientific finding," said Dr. Bryan Gaensler of the Massachusetts Institute of Technology in Cambridge, a pulsar expert who reviewed the paper for the team. "Everyone involved should be really proud of this accomplishment."

Taking advantage of Chandra's superior angular resolution, the students found the source embedded in a region known to be emitting particularly high-energy X-rays. They had access to Chandra data because their science teacher, Dr. Jonathan Keohane, had applied for observation time while associated with the Goddard Space Flight Center in Greenbelt, Md.

To confirm the evidence from Chandra, the students turned to Dale Frail of the National Radio Astronomy Observatory in Socorro, N.M., who gave the team VLA data on IC443. The information strengthened the team's case that a pulsar powers the supernova remnant by confirming the existence of the point-like source and discovering a cloud, or nebula, of high-energy electrons around the central object. Such nebulas are a common characteristic of pulsars.

"The experience of doing new and relevant science has been one of the most rewarding experiences I have ever had," said Olbert, lead author on the paper submitted to the *Astrophysical Journal*. "I never expected to publish a scientific paper while I was still in high school."

The Siemens-Westinghouse Science and Technology Competition is open to individuals and teams of high school students who develop independent research projects in the physical or biological sciences or mathematics. The NCSSM is a free statewide residential high school for students with a strong aptitude and interest in math and science. About 550 high school juniors and seniors reside on the school's campus.

Griner

Continued from page 1

Although it was uncommon to find a woman in a technical position, she said her gender didn't make a difference. "With everything we wanted to accomplish at Marshall, we all needed four sets of hands."

However, Griner believes the arrival of more female engineers and scientists in the workplace makes it easier for today's professional women to network and find role models.

During her career at NASA, she witnessed other changes, including widespread advances in technology and changes in management styles.

Among the most striking change, says Griner, was the advent of computers and calculators. "When you look at what we accomplished with manual tools like the slide rule, it's really amazing," she says. "Now, I probably have more computing power on my desktop computer than we had in 1965 in all of NASA."

In addition to technological advances, she has seen an evolution in management styles: "There is more of a participatory environment today. Now, it's more common to draw from the talents of people on all levels."

Settling on the "right" time to retire was not an easy matter, Griner says. "I could not make this decision without knowing that Marshall would continue to succeed in meeting the needs of this country. I believe our country's future in space depends on this Center. It has the vision, the plan, the skills and the people.

"Most of all, I will miss the people," she says. "I was 18 when I came here, and this

is family. After so many years, I feel like I'm running away from home. I feel privileged to have played a role in what Marshall has accomplished."

Griner joined the space agency in 1964 as a co-op student and progressed to positions of increasing responsibility within several key program areas, including the Space Station Utilization Division at NASA Headquarters and the Spacelab 3 mission.

Prior to being named deputy director, her most significant assignments included serving as director of the Marshall Center Mission Operations Laboratory and managing the Marshall Payload Projects Office. Griner also served as acting director of the Marshall Center for nine months in 1998.

Griner's numerous awards include the Presidential Rank of Meritorious Executive (twice), the Presidential Rank of Distinguished Executive (twice), the NASA Exceptional Leadership Medal, the NASA Exceptional Service Medal (twice) and the Distinguished Service Medal (twice).

She has a bachelor's degree in astronomical engineering from Florida State



File photo

This 1976 photo shows Griner, center, with Drs. Mary-Helen Johnston, left, and Ann Whitaker wearing scuba gear at the Neutral Buoyancy Simulator for training.

University in Tallahassee and completed graduate work in industrial and systems engineering at the University of Alabama in Huntsville.

Griner attributes much of her success to her family. "To be successful in a two-career family, it's been a real partnership with my spouse and children. My husband has been a true partner through thick and thin."

She and her husband, Donald Griner, have three grown children — Kimberly Webb, David Griner and Stacy Taylor — and two grandchildren.

No decision has been made on who will replace Griner as deputy director.

The writer, employed by ASRI, supports the Media Relations Department.

Space Toys

Continued from page 3

known by its "TN" trademark, Baggs said. The company disappeared in the 1970s. The Apollo 11 "Eagle" Lunar Module also was manufactured in 1969, by Daishin Kogyo (DSK). "Little is known about this company or what happened to it, but the Eagle Lunar Module was its last gasp as a maker of space toys," Baggs said.

Baggs finds these rare and collectible toys at estate sales, auctions and on the Internet. He advises would-be collectors to do their homework before making any purchases.

"Find the type of toys you are interested in and do your research. Read price guides and find out the history of the companies that made the toys. But remember, price guides are just that, 'guides,' and one toy may bring a premium in one part of the country but not in another. A toy, like anything else, is only worth what someone is willing to pay for it.

"Buy toys that have a special meaning to you or simply because they're fun," Baggs said. "If you stick to that principle, you won't be disappointed later.

The writer, employed by ASRI, is the Marshall Star editor.

Employee Ads

Miscellaneous

- ★ Bauer Impact 30 ice skates, boy's size 12, \$40; Bauer Supreme ice skates, boy's size 2, \$20. 533-5942
- ★ Desk, 4-drawers and hutch, 60"x30", \$150. 895-8385
- ★ Baby bed, mattress, bed covers, \$80; Graco baby swing, \$30; booster car seat, \$15. 837-6274 leave msg.
- ★ Cherry dining table, two leaves, 4-chairs, Pennsylvania House, \$900. 882-1097
- ★ Antique Helpmate sewing machine, (circa 1884), w/attachments, \$300. 881-3797
- ★ 1998 Starcraft travel trailer, 21', kitchen, bath, sleeps 5, ac/heat, \$10,500. 828-5290
- ★ Signature 2000 color TV w/remote, 25", \$125; Sanyo VCR, \$50; entertainment center, 6'x16'x7', \$150. 837-3769
- ★ Go-cart, 2-seater w/5HP motor, \$275. 461-9662
- ★ GE natural gas dryer, 5-cycle, heavy-duty, \$100 or trade for electric dryer, equal value. 353-4922
- ★ Mac PowerPC 7200/75 56K Modem, external drive, \$85; Direct TV satellite system, Sony Model SAT-A2 w/RF remote, \$65. 882-1780
- ★ Purebred Australian Shepherd puppies, first shots, wormed, vet checked, 6 weeks old, \$75 each. 561-2287
- ★ Pine bedroom suite; king waterbed, dresser w/mirror, chest, \$350 obo. 379-3886
- ★ Chocolate Lab puppies, 8 weeks old, purebred mother, AKC father, shots, wormed, 3 males, 1 female, \$200. 464-9977
- ★ Nordic-Trac Medalist ski-type exerciser, \$300. 232-1171
- ★ Oriental style brass/beveled glass dining table, 71x39.5x29, \$355; Emerson dorm/office refrigerator, 34x22x19.5, \$45. 355-3089
- ★ Console TV, \$150 obo. 539-5570
- ★ Boy's 24" Trek 220 Bike, 21 gears, pegs, yellow/red, \$150; Boy's 20" Raleigh BMX bike, blue, \$50. 533-5942
- ★ Solid wood crib, Welsh, w/mattress and crib sheets, 5 yrs. old, \$100 obo. 880-6794

- ★ Used dishwasher. Harvest gold. \$25. 883-5396
- ★ Brass and glass kitchen dinette; table & four soft-cushioned chairs, \$110. 533-2287 anytime

Vehicles

- ★ 1998 Chrysler Town and Country LX van, 4 captain chairs, tan, 48K miles, \$18,000. 830-4846
- ★ 1996 Chrysler Town & Country LX, white, cloth, 67K miles, 3.8L, non-smoker, \$12,200. 325-6000
- ★ 1997 Mercury Tracer LS wagon, 4-door, 26K miles, automatic, \$8,700 obo. 883-9875
- ★ 1992 Lincoln Towncar, Executive series, white w/blue leather, dual power seats, 66K miles, \$6,700 obo. 256-586-7375
- ★ 1991 Chevy Cheyenne, long bed, 4.3L, 6 cyl., overdrive, 63K miles, bedliner, new tires, \$4,650 firm. 256-753-2278
- ★ 1995 Acura Integra GS-R, white, 5-speed, low miles, extras, \$11,500. 881-9233
- ★ 1995 Chevrolet Lumina LS mini-van, 7-passenger, burgundy and silver, 117K miles, \$5,500. 722-9989/Miller
- ★ 1997 Ford F-250 XLT, 4x4, w/gooseneck and towing package, automatic, 40K miles, \$16,900. 931-732-4742
- ★ 1992 Acura Integra, 2-door hatchback, red, 5-speed, sunroof, am/fm/cassette, a/c, 107K miles, \$4,800 obo. 757-3320

Wanted

- ★ Anyone who has software or manual for HP-6100C ScanJet flat-bed scanner at home or work. Call 544-1998
- ★ Information on an existing motor/van pool from Florence, Rogersville, Killen area. 544-0073
- ★ NASA hardback SP books about the Mercury, Gemini, Apollo and Skylab programs. 737-7246
- ★ Used dog kennel, 10'x10'x6', modular type. 227-2900

Center Announcements

SHARP mentors — The Education Programs Department is initiating the 2001 Summer High School Apprenticeship Research Program (SHARP). SHARP is an eight-week paid apprenticeship for high school students who reside within commuting distance to a NASA field installation. Marshall will be placing 26 students and will need mentors for each one. Call Alicia Beam at 544-2849 if you are interested in being a SHARP mentor.

Sign language class — The Alabama Institute for Deaf and Blind will be teaching a basic sign language course from 8:30-10:30 a.m. Mondays and Thursdays from Jan. 8 through March 15. Civil servants interested in attending should send an e-mail to Pat Schultz by Dec. 21.

Blood drive — The American Red Cross will hold a blood drive from 8 a.m.-1:30 p.m. Friday at the NASA Exchange, Bldg. 4752. Everyone who donates will receive a gift certificate for a medium, one-topping pizza from Domino's Pizza. The schedule is: A-B, 8 a.m.; C-F, 8:30 a.m.; G-H, 9 a.m.; I-L, 9:30 a.m.; M-O, 10 a.m.; P-S, 10:30 a.m.; T-Z, 11 a.m. If you are unable to make your assigned appointment time, the Red Cross will be available until 1:30 p.m. to assist you.

Drunk and Drugged Driving Prevention Month — December is National Drunk and Drugged Driving (3D) Prevention Month.

New Year's Eve Gala — The Redstone Officers' and Civilians' Club is hosting a New Year's Dinner buffet and dance on Dec. 31 for members and their guests. Tickets are only \$29.95 and include prime rib, blackened salmon, continental breakfast, party favors and a champagne toast. Live entertainment is by Aspen Gold. For tickets, call 830-CLUB.

Obituary

Chambers, Charles H., Sr., 73, of Cullman, died Dec. 2. He retired from Marshall in 1982, where he worked as an electrical engineer/manager. He is survived by his wife, Jean.

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